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(54) ULTRAMICROCRYSTAL MAGNETIC FILM AND ITS MANUFACTURE

(57) Abstract:

PROBLEM TO BE SOLVED: To enable forming an ultramicrocrystal magnetic film on a substratum like an organic film whose heat resistance is comparatively low, by making it possible to form an ultramicrocrystal magnetic film exhibiting high electric resistance and soft magnetism at a comparatively low temperature.

SOLUTION: This ultramicrocrystal magnetic film contains

ceramics phase and ferromagnetic ultramicrocrystal phase. The ceramics phase contains at least one out of O, N and C, and at least two ceramics phase constituent elements B, Al, Si, Zr and Hf whose affinity to O, N and C is higher than Fe and Co which are elements constituting ferromagnetic ultramicrocrystal phase. Preferably, the state of dispersion of the ferromagnetic ultra-microcrystal phase in the ceramics phase is controlled, so that electric resistivity is at least 200 [$\mu\Omega\text{cm}$] and coercive force is at most 1.5 [Oe].

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